



EnCana Oil & Gas (USA) Inc.

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SOLID AND HAZARDOUS
WASTE DIVISION

MAR 26 2008

CERTIFIED MAIL 7007 2680 0001 3299 9117
RETURN RECEIPT REQUESTED

March 24, 2008

Ms. Connie Scranton
Wyoming Department of Environmental Quality
122 West 25th Street, Herschler Building 4 West
Cheyenne, WY 82002

RECEIVED

APR 02 2008

Solid & Hazardous Waste Div.
Lander, Wyoming

Re: Preliminary Remediation Agreement, EnCana Oil & Gas (USA) Inc.
Pavillion Natural Gas Field, Fremont County, Wyoming
VRP Site # 58.058

Dear Ms. Scranton:

Pursuant to Ms. Kathy Brown's instructions in her cover letter to James Walcutt, dated
March 14, 2008, enclosed is an executed original of the captioned document.
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Sincerely,

EnCana Oil & Gas (USA) Inc.

Norma K. Shettle
Administrative Assistant
Wind River/Green River Basins, WY

Enclosure

cc: Ms. Kathy Brown, Voluntary Remediation Program, WDEQ (w/o Encl.)
Mr. Scott Regan, EnCana Oil & Gas (USA) Inc.

RECEIVED

APR 0 3 2003

190001 Wyoming
State & Interstate Waste Div

MAR 26 2008

PRELIMINARY REMEDIATION AGREEMENT
ENCANA OIL & GAS (USA) INC.
PAVILLION NATURAL GAS FIELD
FREMONT CO., WYOMING
(VRP Site # 58.058)
March 14, 2008

1. This Preliminary Remediation Agreement (PRA) is entered into voluntarily by EnCana Oil & Gas (USA) Inc. ("Volunteer" or "EnCana"), and the Wyoming Department of Environmental Quality (WDEQ), pursuant to the Voluntary Remediation Program (VRP), Title 35, Chapter 11, Article 16 of the Wyoming Environmental Quality Act, W.S. § 35-11-1601 et. seq. (Act).

2. The Volunteer is the current operator of natural gas production wells located in the Pavillion Natural Gas Field, Fremont County. In 2007, the Volunteer voluntarily investigated 23 of 28 locations historically operated by the Volunteer's predecessors. The 28 locations were known to have used unlined water production pits and possibly reserve pits ("historical pits"). It is likely the pits ceased receiving wastes in the late 1980's and early 1990's.

3. The Volunteer originally entered the sites into the VRP in 18 applications (hereinafter each application is referred to as a "site") signed August 16, 2005. WDEQ determined the sites were eligible to participate in the VRP via a letter dated September 7, 2005. The Volunteer then decided to investigate and cleanup the pits in accordance with Wyoming Oil and Gas Conservation Commission (WOGCC), "Guideline for Closure of Unlined Production Pits, December 10, 2002". Therefore, EnCana requested that the VRP applications be put on hold until the pit investigations were completed. EnCana informed the WDEQ that pits with only soil impacts would be closed out under WOGCC guidance and withdrawn from the VRP. The WDEQ and EnCana agreed that historical pits where impacts to groundwater quality were discovered would remain in the VRP and be cleaned up under WDEQ/VRP jurisdiction. Pit investigations were conducted in fall 2006 and spring 2007. Based on the investigations, 18 pits enrolled in the VRP met WOGCC closure criteria for soils. The Volunteer requested withdrawal of 18 pits (12 applications) from the VRP. The investigations concluded that groundwater at 3 well locations (14X-11, 24X-03, 42X-11) exceeded Wyoming groundwater standards. Therefore, the Volunteer requested that those 3 sites (3 applications) remain in the VRP. In addition, investigation activities have not been conducted at 5 well locations (14-02, 22-12, 4-8, 14-12, 21-11). Therefore, the Volunteer requested that those 5 sites (3 applications, since the other 2 well locations are included on applications with identified groundwater impacts) remain on hold in the VRP until the investigation activities are completed in 2008. Sites where groundwater impacts are identified during future investigations will remain in the VRP. This PRA is applicable to the above 6 applications participating in the VRP, as needed.

4. The Volunteer has performed site investigation activities at 23 of the former Pavillion Field

26 produced water pits prior to this PRA, plus an additional 2 pits which were not enrolled in the VRP. This information was submitted in a "DRAFT Site Investigations Work Plan" dated September 15, 2004 and "Report of Groundwater Hydrocarbon Impacts and Pavillion Pit Remediation" dated September 10, 2007 and follow-up reports dated October 12, 2007 and February 29, 2008.

5. The Volunteer has completed the public notice period as required in W.S. §35-11-1604. The public comment period ended on February 10, 2008. The DEQ received 21 requests from both individuals and organizations for the Volunteer to develop a public participation plan. Given the significant public interest in the site, DEQ requested that the Volunteer develop a public participation plan. The Volunteer is in the process of developing the plan.

6. The purpose of this PRA is to establish the terms and conditions agreed to by the Volunteer and the DEQ in order to determine levels and extent of impacts, to complete site characterization in support of risk assessment, as applicable, and to support selection of a remedy to meet the standards in W.S. §35-11-1605.

7. A "Site Characterization Workplan" (workplan) will be submitted by the Volunteer for the DEQ to review and approve no later than 90 days from the effective date of this PRA. The DEQ will review the workplan and provide the Volunteer with its written approval, approval with modifications or comments, or disapproval with comments.

8. The data obtained through site characterization shall be sufficient to determine the nature and extent of impacts to groundwater quality, and to identify potential sources of releases consistent with the site characterization performance criteria as described in VRP Fact Sheet #8, "Site Characterization." This Fact Sheet along with Fact Sheets #28 and #29 (Data Quality Objectives and Sampling and Analysis Plans, respectively) should all be used as references when preparing the workplan. In addition the following minimum criteria apply:

- a. Groundwater will be sampled and analyzed in accordance with established protocols as discussed in Section 24. Laboratory reporting limits must be lower than levels established under Section 10, or, if the DEQ agrees that such limits cannot be achieved, a site specific approach will be used (e.g., such as use of surrogates, using the PQL as a screening level, etc.).
- b. The Volunteer will propose procedures to be used during site investigation (i.e., sampling methods/procedures, analytical methods, well design, well construction, geophysics modeling, etc.), including sampling and analysis plans (e.g., standard operating procedures).
- c. The data gathered must be sufficient to support risk assessment, when applicable, and to evaluate remedies. If passive remedies are to be evaluated, at least one active remedy will also be evaluated through a formal remedy evaluation.
- d. If applicable, the workplan will establish how the Volunteer intends to determine site specific background concentrations in groundwater for metals/inorganic constituents, in consideration of EPA guidance on establishing site specific background concentrations

in groundwater (see Fact Sheet #13 for a list of applicable EPA references).

- e. The workplan should be drafted in consideration of the information to be reported as described in Section 11.

9. Compliance by the Volunteer with the terms of this PRA shall not relieve the Volunteer of its obligation to comply with RCRA and/or any other applicable State or Federal law or regulation. Note: Approval from the Wyoming State Engineer is not needed for wells designed exclusively for the purpose of monitoring groundwater that are constructed with a nominal 4-inch diameter, or smaller, casing. Although Water Quality Division permits will not be issued for subsurface investigation facilities installed under the VRP, all monitoring wells must meet the requirements of Water Quality Rules and Regulations, Chapter 11, Part g and well installation requirements in Water Quality Guideline 2 section g, entitled Proposed Subsurface Investigation Facilities (pages 2 through 6 of Guideline 2).

10. For purposes of this PRA only, constituents in groundwater will be compared as described in VRP Fact Sheet #13, "Groundwater Cleanup Levels." If applicable, screening levels for metals/inorganic contaminants can be set at naturally occurring background concentrations established at the site, as approved by the DEQ in the workplan. Ecological screening levels (see VRP Fact Sheet #19) may also be applicable based on the results of the ecological exclusion assessment conducted per Fact Sheet #14 (see Section 10 below).

11. In accordance with the schedule contained in the approved workplan, the Volunteer will submit for the DEQ approval a site characterization report ("report"). The report will include all site characterization findings and analytical data. At a minimum, the report shall include the following information:

- a. Data as described in Section 8 including specific contaminant concentrations;
- b. Comparison to screening levels per Section 10;
- c. Site specific background concentrations for constituents in soil and groundwater, if applicable;
- d. Results of the soils investigation conducted under WOGCC guidance, for purposes of determining if there is a continuing source to groundwater;
- e. Results of the groundwater investigation, including the following information, as appropriate:

Hydrogeology:

- Aquifer characterization, including but not limited to static water levels, flow direction and velocity, hydraulic conductivity, transmissivity, effective porosity and other information as may be appropriate;
- Characterization of the hydrogeologic setting through the use of well logging;
- Other physical and hydrogeochemical characteristics likely to be needed in risk assessment and/or remedy selection, e.g., parameters necessary to conduct a monitored natural attenuation evaluation;

Nature and distribution of impacts resulting from historical pits:

- Characterization of the contaminant plume originating from the point of release and its relation and impact to the localized groundwater regime, including specific contaminant concentrations;
 - The horizontal and vertical direction of contaminant movement;
 - The velocity of contaminant movement;
 - The horizontal and vertical concentration profiles occurring in the plume(s) (list specific constituents or family of constituents) by a method approved by the DEQ;
 - A description (the extent of the description (i.e., plume contour maps, cross sections, etc.) will depend on site circumstances of the horizontal and vertical extent of any non-aqueous phase and/or dissolved phase contamination originating at and/or from the Site;
 - An evaluation of factors influencing the plume movement; and
 - Other contaminant characteristics likely to be needed in risk assessment and/or remedy selection, e.g., non-aqueous phase liquid characteristics (hydrocarbon fluorescence, density, viscosity, surface tension, NAPL/water interfacial tension) paired with soil characteristics (saturation analysis, capillary pressure curves, imbibition curves, relative permeability curves) to predict NAPL saturation and volume, mobility and recovery potential with conventional and/or innovative technologies.
- f. Ecological exclusion assessment per Fact Sheet #14, "Ecological Risk Screening".
- g. The Volunteer will document the procedures used in making the above determinations (i.e., well as-builts, changes in approved sampling protocols, modeling, etc.).

12. The DEQ will review the report and provide the Volunteer with its written approval, conditional approval, approval with modifications, or disapproval with comments.

13. In the event that the DEQ agrees that the report confirms that screening levels as defined in Section 10 have been met, the Volunteer may then submit a written request to the DEQ for a liability assurance. If and when a liability assurance is issued per this provision, this PRA shall be satisfied with respect to applicable media.

14. Subject to Section 20 and in the event that the report establishes that screening levels as defined in Section 10 have not been met, the parties will enter into a Remedy Agreement pursuant to W.S. §35-11-1607. The Remedy Agreement will be subject to public review and comment in accordance with W.S. §35-11-1604.

15. After reviewing the report and in accordance with W.S. §35-11-1606, the DEQ may require that the Volunteer conducts a formal written evaluation of remedial alternatives. The DEQ will notify the Volunteer in writing if a formal written evaluation is required.

16. If additional site specific data is needed prior to entry into a Remedy Agreement, to further define extent and nature of impacts to support risk assessment and/or for remedy evaluation/selection, this PRA may be amended in accordance with Section 25. If remedy

selection can proceed based on the data and information in the report, but additional data is needed to complete risk assessment or for remedy design, the sampling and analysis plan for data collection can be incorporated into the Remedy Agreement.

17. If results of the site characterization show hazardous wastes are present on any of the sites, or constituents above hazardous waste levels are present on any of the sites (as defined in the DEQ Hazardous Waste Rules and Regulations), the terms and requirements of W.S. §35-11-1605(g) must be met.

18. The Volunteer must permit access to the DEQ, their contractors, or any other person authorized by the DEQ so long as such persons comply with EnCana's safety requirements and procedures. This includes access to and the ability to copy any records, reports, test results or any other documents that are required to be maintained.

19. W.S. §35-11-1612 authorizes the DEQ to recover fees associated with all reasonable direct and indirect costs associated with the DEQ participation in activities authorized under Article 16 of the Act. The Volunteer acknowledges that under certain circumstances, it may be necessary to utilize a DEQ approved technical services contractor to provide technical assistance to the DEQ for work activities that are beyond the expertise of the DEQ staff. The DEQ will notify the Volunteer of such technical assistance needs, and will work with the Volunteer to define an appropriate scope of work and associated costs prior to contracting for such technical assistance and assessing fees to cover such contractor costs. By entering into this PRA, the Volunteer agrees to not dispute or appeal assessment of fees to cover work actually performed at the rates specified in the contract, but may dispute or appeal assessment of fees on the grounds that the contractor did not actually perform the work specified in the contract or that the rates billed are not the rates specified in the contract.

20. This PRA shall be satisfied when the parties enter into a Remedy Agreement in accordance with W.S. §35-11-1607.

21. The Volunteer may withdraw from the VRP prior to signing a Remedy Agreement under W.S. §35-11-1607. A Volunteer who withdraws from the VRP is potentially subject to remediation requirements for non-voluntary sites per W.S. §35-11-1613.

22. The Volunteer will comply with any applicable standards, rules or regulations for management of wastes generated through implementation of this PRA.

23. The Volunteer shall employ sound scientific, engineering, construction and management practices and principles under this PRA. Therefore, it is the Volunteer's responsibility to ensure that personnel and contractors carrying out the work required by this PRA possess the appropriate qualifications. Work that is defined as 'practice of geology' before the public must be certified by a Professional Geologist registered in the state of Wyoming and work that is defined as 'engineering practice' must be certified by a Professional Engineer registered in the state of Wyoming.

24. The Volunteer shall use quality assurance, quality control, data validation, and chain of custody procedures for all data gathered under this PRA in accordance with EPA OSWER Directive SW-846, Third Edition, or subsequent edition as then in effect.

25. All approved workplans, documents, and reports submitted under this PRA shall be incorporated by reference into this PRA as if set forth fully herein. Any amendments to this PRA may be incorporated by an amendment to this PRA. This PRA may be amended to address the discovery of unforeseen environmental conditions not contemplated by this PRA. Any future information, data, and evaluations submitted under this PRA will be incorporated into the PRA by reference for all purposes, pursuant to this provision.

26. Interim Measures are proposed and implemented when conditions at a facility present a threat to human health and/or the environment. As warranted, the Volunteer will implement interim measures to control or abate actual threats, prevent imminent threats from occurring, and/or keep impacts from historical pits from increasing in scope. Except for actions necessary to address an immediate threat to human health or the environment, interim actions require the DEQ approval prior to implementation. For actions necessary to address an immediate threat, the Volunteer must verbally notify the DEQ within twenty-four (24) hours and in writing within three (3) days. To the extent practicable, interim measures should be consistent with the remediation standards of W.S. §35-11-1605. The criteria that will be used in determining the need and appropriateness of a given interim measure include, but are not limited to the following:

- a. Time to implement the final remedy;
- b. The immediate need to control human exposures;
- c. The immediate need to control releases to groundwater;
- d. Actual or possible exposures to nearby populations or animals;
- e. The threat of impacts to drinking water;
- f. Further degradation if the interim measure is not carried out;
- g. The presence of wastes that pose a threat of further release;
- h. Hazardous waste or constituents in soils or groundwater that could migrate;
- i. Weather conditions that may cause releases of hazardous wastes or constituents;
- j. Risk of fire/explosion or exposure to the hazardous wastes or constituents;
- k. Other situations that may pose threats to human health and the environment.

27. If the date for submission of any item required by this PRA falls upon a weekend or state government holiday, the time period for submission of that item is extended to the next state government working day following the weekend or holiday.

28. For purposes of this PRA, a Force Majeure is any event arising from causes not foreseeable and beyond the reasonable control of the Volunteer which could not be overcome by due diligence and which delays performance of any obligations required by this PRA. Events which may constitute a Force Majeure include, without limitation, acts of God; wars, civil unrest; unusual severe weather; regulatory delays relating to required approval or permits; or earthquake,

fire, flood or other casualty, but excludes increase of costs or financial problems of the Volunteer.

29. The Volunteer shall orally notify the DEQ within five (5) business days and confirm in writing such oral notification within twenty (20) business days after any event which the Volunteer contends is a Force Majeure. Such notification shall describe the anticipated length of the delay, the cause or causes of the delay, the measures taken and to be taken by the Volunteer to minimize the delays, and the timetable by which these measures will be implemented. Failure to notify the DEQ in accordance with this Section shall constitute a waiver of such claim of Force Majeure. The Volunteer shall have the burden of demonstrating the event is a Force Majeure.

30. If the DEQ agrees that a delay is attributable to a Force Majeure, the time period for performance of the activity delayed and any other activities affected by such delay under this PRA shall be extended for a reasonable time period appropriate to the circumstances. If the DEQ finds that the delay is not attributable to a Force Majeure, no extension shall be permitted.

31. The Volunteer shall make available to the DEQ and shall retain during the pendency of this PRA and for a period of three (3) years after its satisfaction, all records and documents in its possession, custody or control, or in the possession, custody or control of their contractors or subcontractors, which relate to the performance of this PRA, including but not limited to documents reflecting the results of any sampling, tests, or other data or information generated or acquired by the Volunteer, or on the Volunteer's behalf, with respect to the implementation of this PRA. After the three (3) year period of document retention, the Volunteer shall provide the DEQ, in writing, by certified mail, return receipt requested, a complete list of all such documents. The DEQ shall then have 60 days to provide the Volunteer with written notice, by certified mail, return receipt requested, which, if any, documents the DEQ would like to add to the state's files. The Volunteer may then destroy all remaining documents without further notice to the DEQ.

32. Any dispute arising under this PRA is subject to the dispute resolution provisions of the Wyoming Environmental Quality Act (W.S. § 35-11-1611).

33. The Volunteer shall indemnify, defend and hold harmless the State, the Department of Environmental Quality, and their officers, agents, employees, successors and assignees from any and all claims, lawsuits, losses and liability arising out of Volunteer's failure to perform any of Volunteer's duties and obligations hereunder or in connection with the negligent performance of Volunteer's duties or obligations, including but not limited to any claims, lawsuits, losses or liability arising out of Volunteer's malpractice.

34. The DEQ hereby reserves all of its statutory and regulatory powers, authorities, rights, remedies, both legal and equitable, which may pertain to the Volunteer's failure to comply with any applicable laws and regulations and with any of the requirements of this PRA, including but not limited to, the right to disapprove of work performed by the Volunteer, to request that the

Volunteer perform additional tasks and the right to perform any portion of the work herein.

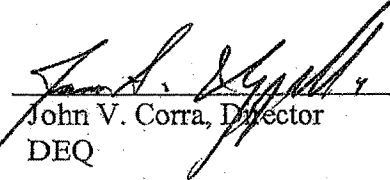
35. Notwithstanding compliance with the terms of this PRA, the Volunteer may be required by the DEQ to take further action necessary to abate any hazard related to potential issues at the site provided such action is otherwise in compliance with applicable Wyoming law. In addition, nothing in this PRA shall preclude the DEQ from addressing other site conditions through a Unilateral Order, if necessary, provided that such order is otherwise in compliance with applicable Wyoming law.

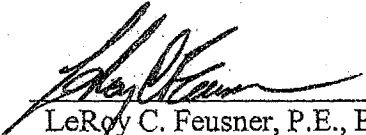
36. This PRA shall apply to and be binding upon the Volunteer, its successors and assignees and upon the DEQ and its successors.

37. The signatories to this PRA certify that they are fully authorized to execute this PRA and legally bind the parties they represent.

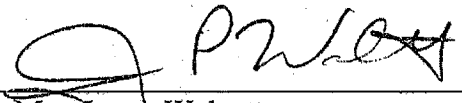
IN WITNESS WHEREOF, the parties have caused this PRA to be duly executed on the dates set forth below. The effective date of this PRA is the date of the last signature.

FOR THE WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

By:  1/17/08
John V. Corra, Director
DEQ Date

 17 Mar 08
LeRoy C. Feusner, P.E., BCEE, Administrator
Solid and Hazardous Waste Division Date

FOR ENCANA OIL & GAS (USA) INC.

By:  3-24-08
Mr. James Walcutt
Team Leader - Wind & Green River Date

SW